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ABSTRACT

This digest discusses how urban schools can implement distance learning programs through customized development of the three elements crucial to a successful distance education program: (1) sound instructional design; (2) appropriate technology applications; and (3) support for teachers, students, and collaborative partners. A distance learning program must meet the educational goals of the institution. Implementing such a program requires time, people, funding, and careful planning. Descriptions of two exemplary programs show the importance of planning. Connectivity standards are key to implementing a distance learning program. Connections must be widely and easily available, reliable, and predictable. Support must be provided by a distance learning facilitator who assists student learning and ensures technology maintenance. In urban settings, additional fiscal and individual support of the program can be secured from community distance learning events. (Contains 10 references.) (SLD)

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ERIC CLEARINGHOUSE ON URBAN EDUCATION

DIGEST

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IMPLEMENTING DISTANCE LEARNING IN URBAN SCHOOLS

One of the greatest challenges confronting large urban school districts is the ability to provide students with low-cost high quality educational services. In addition, urban schools often face large numbers of adult learners with a plethora of educational needs, from basic literacy to career planning, training, and placement. Constricted by a shortage of resources, lack of public transportation, and questionable street safety, these schools are increasingly turning to distance education as a means of service delivery (Harrington-Leuker, 1999).

Distance learning can be defined simply as an instruction and learning practice utilizing technology and involving students and teachers who are separated by time and space. It can occur between schools, between schools and colleges and universities, and even within school buildings and districts. Distance education first emerged as a concept in the nineteenth century, when it was characterized as a correspondence course. It reappeared as the open universities of the 1970s, and then as the videotape, broadcast, satellite, and cable productions of the 1980s. Today, distance education commonly refers to the use of audio, video, and computer videoconferencing technologies as delivery modes (Steiner, forthcoming).

This digest discusses how urban schools can implement effective distance learning programs through customized development of the three elements crucial to a successful distance education program: a sound instructional design; appropriate technology applications; and support for teachers, students, and collaborative partners (Steiner, 1999).

Program Planning

Initial Steps

Overall, a distance learning program must meet, and preferably enrich, the educational goals of the institution and the needs of the students. To do so most effectively, it is important to establish the policy, procedures, and programming components prior to beginning the program. Urban districts, in particular, confronted with limited resources of all types, need to build capacity and support within schools from the onset by involving administrators and teachers in the planning, implementation, and evaluation.

Early decisions determine whether distance learning includes one school building or several within one or more districts. They also establish budgeting and program scheduling arrangements. Additional initial planning includes the creation of new forms for assessing students and providing feedback on their work; the selection, development, and technology training of program staff; and the development of effective instructional designs. Relationships with business, government, and other educational institutions, such as colleges and universities, are considered as possible future support for the program. Finally, contingency plans for teachers and students are prepared to deal with technical problems.

Goals and Benefits

Distance learning encourages students to be creative, to participate actively in their own learning, to experience others, and to prepare for the kind of world that they will enter as adults. Further, computer learning activities that employ multiple interactive media (sound and video) encourage active listening, focused attention, and the ability to work independently (Schlosser & Anderson, 1997). Specifically, effective urban distance learning programs enable some of the following (Reed & Woodruff, 1995):

- Student participation in honors and enrichment classes with low enrollment.
- Links to enrichment activities, such as an arts program in New York City involving Lincoln Center and New York City schools.
- Teaming with businesses, community colleges, and tutors, and participation of remote guest speakers and experts to augment learning.
- Shared resources and participation in multi-school projects.
- Participation in college level courses, English as a Second Language instruction, alternate education, and special education, which allows children to participate in regular education classes as well.

Student benefits include these (New York State Distance Learning Consortium, 1999):

- The breakdown of prejudices that divide communities, resulting from students' experiences working with diverse populations in many locations.
- The opportunity for at-risk, special education, English language learners, bilingual students, and alternative education students to participate in a variety of settings that are manageable for them, including regular education classes, without the stresses of the regular classroom and with the ongoing option to take time out.
- The achievement of the Hawthorne Effect, whereby the performance and behavior of children in distance learning classrooms exceed expectations.

Program Design

Design Elements

Implementing a distance learning program requires time, people, funding, and careful planning. The following factors have been identified as essential to successful program development (Pearson, 1989):

- Identified need (perceived or real) for the program.
- Faculty support, given incentives for motivation.
- Funds for capital costs, production, equipment, facilities, and ongoing operations.
- High quality educational content.
- Adequate staffing.
- Equal learning experiences and educational outcomes (i.e., credits, degrees) for all students.
- Enthusiasm for, and belief by, the institution in the overall program.
- Identification of a visible, spirited key leader/administrator initiating the program.
- Adequate facilities and staff at the receiving sites.
- Available equipment to deliver programming.
- Sufficient time for careful analysis of learner needs and demographics, the optimum service range, and the most appropriate types of courses.
- Instructional design and TV production: the interactive components, length, and frequency.
- A marketing plan for the network or program, and a public relations plan for the public.
- Cost effectiveness: feasibility and justification for delivery system to students and institution.

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- Program support or partnerships enlisted from the public and private sectors.
- Ensured continued credibility of the program with the public, faculty, students, and supporters.
- Administrator, teacher, and staff knowledge of what distance education is and how to teach and use it effectively.
- Ability to accredit courses and to offer or transfer credits across states or institutions.

Exemplary Programs

Several urban schools have implemented effective distance learning programs. For example, the ***TEAMS Project*** (Los Angeles, CA), for K-8 students, was chosen as a STAR School Project in telecommunications partnerships by the U.S. Department of Education. It provides instruction through a distributed learning system that allows students, teachers, and parents in more than ten states to access information via satellite, television, multimedia, and the Internet. Participating schools have access to a variety of instructional programming that includes hands-on science and higher mathematics, workplace skills, and life skills programs. Learners served surpass the K-8 intended audience, encompassing K-12 students, adult learners, limited English proficient students and disabled students.

The Learning Café is the home of a set of four 30-seat computer laboratories in four Brooklyn, NY, high schools connected by a T1 line to the Internet established though a grant from the U.S. Department of Commerce, Brooklyn College, and The College Board. Catering to at-risk students, the Café offers web-based pre-college and college level courses to students who are demographically less likely to pursue higher education. Students are able to learn new technologies and explore career options in addition to pursuing their college careers. Early college core courses are offered to students at no cost. Students who successfully complete the Café courses are automatically admitted to Brooklyn College. Engaging, easy to use, and non-threatening personalized software is used to welcome students to online distance learning. A database component was created to link students to work as well as to evaluate and to monitor student access and performance (Case Studies, 1999).

Technology

Connectivity standards are key to implementing a distance learning program. Connections must be widely and easily available, reliable, and predictable. The most common ways to transmit a videoconference today are these:

- ***Direct Broadcast Satellite*** (DBS, which are expensive but can transmit TV-quality broadcasts (30 video frames per second).
- ***Digital T1*** or ***ISDN*** telecommunications lines, which offer the best value and performance (25 video frames per second with ISDN) and have recently become a more affordable option and by far the most common mode of videoconferencing technology.
- ***POTS***, which offers videoconferencing over regular phone lines or a local Ethernet network. Quick movements are blurry, but facial expressions are visible (5-15 video frames per second).
- The ***Internet***, which offers the slowest option (5-6 video frames per second). Cable modems that are utilized to deliver TV channels to 90 percent of American homes offer tremendous potential for high-speed data connections through the Internet, however.

Basic hardware components for a videoconferencing system include a camera, a microphone, a monitor for viewing, a CODEC (COmpressor/DECompressor) to code and decode video signals for transmission, and a device that sends and receives the signals over a phone line or network connection. Based on budget and need, videoconferencing systems can be permanent (classroom or boardroom), portable (group systems on a wheeled cart), compact (videophones), desktop- or LAN based, or Internet-available (Heines, 1997).

Support

A distance learning facilitator is needed to assist student learning and ensure technology maintenance. Support for staff participants is also an important factor in the success of a program, since the introduction of distance learning can be intimidating, even for experienced teachers. Online mentoring systems that match teachers with experienced distance learning staff provide support and advice to new members. To be effective distance educators, teachers become involved in the program's organization, collaborative planning, and decision-making, and must be able to do the following (Schlosser & Anderson, 1997):

- Understand the nature, philosophy, and goals of distance education.
- Identify the characteristics of learners at distance sites.
- Design and develop interactive courseware to suit each new technology.
- Adapt teaching strategies to deliver instruction at a distance and ensure participation in on-air discussions of students at the remote site.
- Format instructional resources for independent study.
- Use telecommunications systems knowledgeably and skillfully.
- Evaluate student achievement, attitudes, and perceptions at distant sites.
- Deal with copyright issues.

Finally, in urban settings, additional fiscal and individual support of the program can be secured from community distance learning events, such as sessions covering public health or senior interests.

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